



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/374,460 | 08/13/1999 | HAMAYUN MUJEEB | 10360/031001 | 3785 |
| 33000 | 7590 | 12/17/2003 | EXAMINER | |
| DOCKET CLERK P.O. DRAWER 800889 DALLAS, TX 75380 | | | DO, NHAT Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2663 | |

DATE MAILED: 12/17/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/374,460

Applicant(s)

MUJEEB ET AL.

Examiner

Nhat Do

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 16-19, 23-44, 47-50, 54-76, 79-82 and 86-106 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-19, 23-44, 47-50, 54-76, 79-82, and 86-106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 2663

DETAILED ACTION

1. The indicated allowability of claims 5, 6, 27, 28, 36, 37, 48, 49, 58, 59, 68, 69, 90, 91, 95, 96, 98, 99, 101, 102 are withdrawn in view of the newly discovered reference(s) to U.S. Patent No. 5,889, 778 to Huscroft et al, U.S. Patent No. 6,246,665 to Watanabe et al, and U.S. Patent No. 6,643,254 to Kajitani et al. Rejections based on the newly cited reference(s) follow.

Response to Arguments

2. Applicant's arguments filed on 08/12/03 have been fully considered but they are not persuasive.

Applicant argues that Sakamoto et al fail to disclose the first physical device (interface card 1-1) and the second physical device (interface card 1-2) are operable for interfacing to a network (Remark page 35, last paragraph). Instead, Sakamoto et al disclose the interface cards 1-1, and 1-2 are each connected to separate transmission paths 7-1, and 7-2.

In reply, Sakamoto et al disclose the invention is about an ATM packet handler having a redundant architecture for switchover to a line interface (Col. 1, lines 5-10). Sakamoto et al also disclose, in an ATM network, for requiring high reliability, the main transmission path system is duplicated in a redundant configuration for an alternate route at occurrence of a failure (Col. 1, lines 47-52). The examiner is in the position the paths 7-1 and 7-2 in figure 1 is the main and redundant paths respectively of an ATM network. Consequently, the first physical device (interface card 1-1) and the second physical device (interface card 1-2) are operable for interfacing to a network (the main and redundant paths of an ATM network).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 8, 10-13, 16, 23-25, 30, 32-34, 39, 41-44, 47, 54-56, 61, 64-66, 71, 73-76, 79, 86-88, 93, and 104-106 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,075,767 to Sakamoto et al.

Regarding to claim 1, Sakamoto et al disclose a system that performs:

Switching from the first physical interface (line interface card 1-1) to the second physical interface (line interface card 1-2) (Col. 10, lines 24-29) based on the information (status value) in the interface redundancy group (selector control register 27) (Col. 8, lines 11-15; lines 55-59);

The responsibility of the cards comprises routing function (Col. 9, lines 3-12). It is inherent that the card 1-2 assumes responsibility of the card 1-1 because the cards are identical (Fig. 1).

Sakamoto et al also disclose the card 1-1 is a primary (working) one and the card 1-2 is a secondary (protection) one (Col. 10, lines 24-29), which is set by the status value in the selector control register 27.

Regarding to claim 23, further to the rejection of claim 1, Sakamoto et al disclose to cards process ATM protocol data (Col. 7, lines 62-67; col. 9, lines 3-12). Sakamoto et al further

Art Unit: 2663

disclose establishing ATM network layer interface that was established over the first ATM card prior to switching (Col. 9, line 28-col. 10, line 9).

Regarding to claims 32, and 54, it is inherent that there is a computer program for instructing the steps of claims 1, and 23 respectively because the Sakamoto et al disclose the switching is controlled by firmware (Fig. 12).

Regarding to claims 64, and 86, Sakamoto et al disclose the switching operation is controlled by the control part 4 (processor) (Col. 8, lines 26-33).

Regarding to claims 2, 24, 33, 55, 65, and 87, the status value (Col. 8, lines 11-15) is the claimed information defining the primary and secondary interfaces.

Regarding to claims 3, 25, 34, 56, 66, and 88, Sakamoto et al disclose the procedure of switching when detecting a defect at the working card (Col. 2, lines 27-30; col. 7, line 62-col. 8, line 33).

Regarding to claims 8, 30, 39, 61, 71, and 93, Sakamoto et al disclose the procedure of switching when the second card in the passive mode is dormant (Col. 9, lines 29-col. 10, line 9).

Regarding to claims 10, 11, 41, 42, 73, and 74, Sakamoto et al disclose the cards support one or more network layer interfaces (Col. 7, lines 62-67).

Regarding to claims 12, 43, and 75, Sakamoto et al disclose the cards comprises ATM physical interface 20(Fig. 1; col. 1, lines 20-33).

Regarding to claims 13, 44, and 76, Sakamoto et al disclose the cards are on a single network router 11 (Fig. 4).

Regarding to claims 16, 47, 79, Sakamoto et al disclose the cards are identical (Fig. 1).

Art Unit: 2663

Regarding to claims 104-106, since it is an ATM network, the transmission path (Fig. 1; col. 1, lines 20-33) is the claimed virtual circuit.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 26/95, 35, 57/98, 67, and 89/101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al as applied to claims 1, 23, 32, 54, 64, and 88 respectively above, and further in view of U.S. Patent No. 6,643,254 to Kajitani et al.

Regarding to claim 4, 26, 35, 57, 67, and 89; Sakamoto et al fail to disclose the event comprises a failure of the first physical interface (line interface card 1-1).

Kajitani et al disclose a method comprising: switching to an alternate physical interface (alternate line interface) when the first interface fails (Col. 1, lines 41-50; col. 8, lines 46-55). In order to increase the reliability of the system, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the switching device in figure 1 of Sakamoto et al so that it switches to the secondary physical interface when the event is a failure of the first physical interface.

Regarding to claim 95, the claims recites the rejected limitations of claim 26.

Regarding to claim 98, the claims recites the rejected limitations of claim 58.

Regarding to claim 101, the claim recites the rejected limitations of claim 89.

Art Unit: 2663

7. Claims 5, 27, 36, 58, 68, and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al and Kajitani et al as applied to claims 4, 26, 35, 57, 67, and 89 respectively above, and further in view of U.S. Patent No. 5,889,778 to Huscroft et al.

Sakamoto et al disclose the first physical interface (line interface card 1-1) is associated with a driver (ATM layer processing block 21-1 (Fig. 1) but fail to disclose the first physical interface (line interface card 1-1) is associated with a signaling stack.

Huscroft et al disclose a system wherein the physical interface requires a driver (ATM layer device) for handling VCs (Col. 3, lines 20-30). The driver (ATM layer device) requires a signaling stack ((VC table in the SRAM 80) for controlling VCs (Col. 5, lines 20-31)).

Since the line interface card disclosed by Sakamoto is ATM line interface card, a skilled artisan would have been motivated to add signaling stack (VC table in the SRAM 80) to the driver (ATM layer processing block 21-1) in the physical interface (line interface card) in the system of Sakamoto et al in order to handle data transmission.

Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention has made to associate a signaling stack to the first physical interface in Sakamoto et al system.

8. Claims 6, 28/96, 37, 59/99, 69, and 91/102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al, Kajitani et al, and Huscroft et al as applied to claims 5, 27, 36, 58, 68, and 90 respectively above, and further in view of U.S. Patent No. 6,246,665 to Watanabe et al.

Art Unit: 2663

Regarding to claims 6, 28, 37, 59, 69, and 91, Kajitani et al disclose detecting the failure of any structural element of the network (Col. 8, lines 47-55) but fail to disclose explicitly detecting the failure of the driver and signaling stack.

Watanabe et al disclose the structural element in an ATM network that could be fail comprising: ATM layer (driver) (Col. 16, line 7), and signaling stack (Software) (Fig. 28). Therefore, in order to detect all the vulnerable part in the system, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to monitor the driver and signaling stack for detecting a failure.

Regarding to claim 96, the claim recites the rejected limitations of claim 28.

Regarding to claim 99, the claims recites the rejected limitations of claim 59.

Regarding to claim 102, the claim recites the rejected limitations of claim 91.

9. Claims 7, 29/97, 38, 60/100, 70, and 92/103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al as applied to claims 1, 23, 32, 54, 64, and 88 respectively above, and further in view of U.S. Patent No. 5,461,609 to Pepper.

Regarding to claim 7, 29, 38, 60, 70, and 92, Sakamoto et al fail to disclose the event comprises receipt of a slot failure at the first physical interface.

Pepper discloses an ATM switch comprising: switching to an alternate physical interface (controller (Col. 3, lines 16-17)) when the slot failure (the controller or the connection to it is failed (Col. 3, lines 9-15). Pepper discloses an example of the ATM switch is disclosed in UK patent application 2273224 (Col. 2, lines 24-26), which is also published as US543689, in which the controller is a physical interface in figure 4).

Art Unit: 2663

In order to employ the benefits disclosed by Pepper (high reliability (Col. 1, lines 25-45)). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the system of Sakamoto et al so that it switches to the secondary physical interface when the event is a receipt of a slot failure at the first physical interface.

Regarding to claim 97, the claim recites the rejected limitations of claim 29.

Regarding to claim 100, the claims recites the rejected limitations of claim 60.

Regarding to claim 103, the claim recites the rejected limitations of claim 92.

10. Claims 9, 31, 40, 62, 72, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al as applied to claims 1, 23, 32, 64, 64, 86 above, and further in view of U.S. Patent No. 5,903,544 to Sakamoto et al.

Sakamoto et al fail to disclose in '767 the first and second cards communicate over the network at the same time.

Sakamoto et al disclose in '544 a similar system wherein the first and the second cards communicate over the network at the same time (Col. 6, lines 50-60). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to modify the system in '767 by making the first and second cards communicate over the network at the same time as in '544. A skilled artisan would have been motivated to do so in order to avoid resource wasted as Sakamoto et al taught in '544 (Col. 2, lines 22-31).

11. Claims 17-19, 48-50, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al as applied to claim 1 above, and further in view of U.S. Patent No. 6,208,616 to Mahalingam et al.

Art Unit: 2663

Sakamoto et al fail to disclose a third card as a backup card and switch to the third card when the first and the second ones fail. Mahalingam et al disclose a structure, wherein using a third card as a back up card and switch to the third card when the first and the second ones fail (Col. 6, lines 50). It would have been obvious to a person having ordinary skill in the art by the time the invention was made to further modify the system taught by Sakamoto et al by adding a third card as a backup card and switch to the third card when the first and the second ones fail. A skilled artisan would have been motivated to do so in order to increase the reliability of the system when the system functions in a severe environment and the chance of component failure is high.

Conclusion

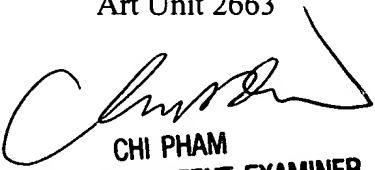
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhat Do whose telephone number is (703) 305-5743. The examiner can normally be reached on 8:30 AM - 5:30 PM Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-308-6743.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Nhat Do
Examiner
Art Unit 2663

ND
December 9, 2003.


CHI PHAM
SUPERVISORY PATENT EXAMINER
ART UNIT 2600 12/10/03